DDOT 2023 Title VI Onboard Survey Report

DDOT

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Prepared for:

DDOT

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1. Introduction

This report includes the results of the 2023 Detroit Department of Transportation (DDOT) Title VI Onboard Survey. AECOM developed and analyzed a 23-question onboard, self-administered survey that was fielded from January 20, 2023, through February 11, 2023. The goal of the project was to address the nine areas prescribed in the FTA Title VI circular (race, color, language spoken at home, household income, travel patterns, fare usage, national origin, and English proficiency). Additional customer information was gathered including trip purpose, trip frequency, internet accessibility, residency, and other demographics. A total of 1,018 surveys were collected.

The overall goals of the project were to measure the following:

- Obtain a demographic snapshot view of DDOT riders.

- Better understand the fares and passes that riders in different demographic subsets use each day.

- Learn DDOT rider habits including how often they ride, how they travel to a bus stop, destinations, and more.

- Gather core demographic data about riders, including gender, age, ethnicity, residency, employment status, and household income.

- Learn if riders have access to the internet and the type of cell phone they use.

- Specifically address the Title VI objectives noted above.

The next section outlines the methodology for this survey effort, including details about how the survey was conducted. The Summary Results section includes survey findings, showing percentage response rates for each question and a percentage breakdown of responses based on all valid surveys collected. Additional figures and cross-tabulations of selected survey questions are included in Appendix A.

2. Methodology

The Sampling Plan

The project's overall goal was to obtain an adequate number of survey responses to complete a snapshot analysis of DDOT riders. Ridership data for the entire DDOT system was used to create the sampling plan (Table 1), and a final goal of 1,066 completed surveys was set. This goal was set by ensuring the number of completed surveys would result in a 95% confidence level and ±3% margin of error for the entire system. This was calculated based off the average number of passengers in a two-week period, the target time frame for completing data collection. A sampling plan was developed that reflected this goal and ensured a representative sample based on the route. This reflects a slight weighting based on more frequently used routes.

Additionally, the sampling plan ensures that high-ridership limited-English proficiency (LEP) population routes are oversampled so an analysis with the same confidence level and margin of error can be performed on this subset of data. The Title VI-focused routes and topics were reviewed for any significant results and are cited where appropriate.

Table 1: Sampling plan with survey targets and surveys collected

Low-English Proficiency (LEP) Routes	Route Name	Route No.	Survey Target	Surveys Collected
LEP	Vernor	1	69	76
LEP	Michigan	2	84	82
	Grand River	3	61	70
	Woodward	4	66	70
	Van Dyke / Lafeyette	5	25	20
	Gratiot	6	50	27
	Seven Mile	7	61	41
	Warren	8	34	6
LEP	Jefferson	9	125	129
	Greenfield	10	47	79
	Clairmount	11	1	4
LEP	Conant	12	24	15
	Conner	13	4	10
	Chicago / Davison	15	8	1
	Dexter	16	52	29
	Eight Mile	17	59	53
	Fenkell	18	15	14
	Fort	19	8	8
	Hamilton	23	7	6
	Joy	27	13	16
	Linwood	29	7	7
	Livernois	30	7	0
	Mack	31	19	16
	McNichols	32	21	15
	Plymouth	38	18	23
	Puritan	39	4	11
LEP	Russell	40	14	5
LEP	Schaefer	41	48	47
	Mid-City Loop	42	2	8
	Schoolcraft	43	8	14
	Southfield	46	2	0
	Tireman	47	1	0
LEP	Chene	52	31	37
LEP	Wyoming	54	41	42
	Evergreen	60	18	15
	Cadillac / Harper	67	8	10
	Chalmers	68	3	12
	Total all routes:		1066	1018
	Total LEP routes:		437	438

Survey Instrument

A survey instrument was provided to AECOM by DDOT staff. The product consisted of 30 questions. The instrument was a paper survey available in English, Spanish, and Arabic. Questions were located on the front of a single page. Providing contact information at the end of the survey was optional, allowing respondents to enter a drawing for one of four 31-day DDOT bus passes (See Appendix A.4 for the full survey).

Training and Data Collection Process

Prior to data collection, a training session was held with all data collection staff. Eight surveyors were trained for the data collection responsibilities. The training covered the purpose of the survey, survey goals, the process for data collection, incentives, and overall protocol. Once trained, the data collection team was deployed. Team members were assigned specific daily quotas for each route during different times and days of the week (Appendix D). Survey quotas for each route were determined based on the sampling plan.

The survey was administered during weekdays (Monday-Friday) and on weekends (Saturday-Sunday). Working in teams of two, staff boarded the DDOT buses and handed out the survey instrument to passengers willing to participate. This project was undisguised—in other words, it was disclosed to participants that DDOT was sponsoring the research. Once surveys were complete, the instrument was collected. Members of the data collection team wore a DDOT badge to identify themselves. The surveys were made available in Spanish and Arabic to ensure that the survey process was inclusive. In total, three Spanish surveys and one Arabic survey were completed.

Survey Analysis

Please note that conventional rounding rules have been applied to the percentages in the report tables. As a result, the percentages below may not always add up to 100 percent. For questions where only one option could be selected and for questions where multiple options could be selected, percentage breakdowns represent the percentage of respondents out of the group of respondents that responded to the question (with blanks omitted). For questions where multiple options can be selected, the percentages will not always add up to 100 percent.

Title VI Considerations

The survey sample plan was formulated with oversampling on specific bus routes that have more substantial minority ridership according to previous DDOT data as well as Census tract data. These routes are referred to as *Low-English Proficiency* routes ("*LEP*" routes) and are highlighted on the table of routes and quotas in Table 1 above.

3. Summary Results

Summary Results are organized in the following three sections (1) System Use (2) Trip Characteristics and (3) Customer Characteristics and Demographics. Each section contains select key findings and a table outlining results for each question. Bulletted items compare 2023 results back to 2018 results.

System Use

Questions 1-3 of the survey asked respondents about how they use DDOT service.

Key Findings:

Travel Patterns: Most riders ride the bus on both weekdays and weekends (63%). Most riders ride the bus between 6AM - 3PM (82%). The greatest share of riders rides the bus 6-7 days a week (44%).

- There was a slight decrease in weekend ridership between 2018 (12%) and 2023 (7%).

- There was a slight decrease in ridership for special events between 2018 (12%) and 2023 (8%).

- The number of days respondents rode the bus per week was very similar between 2018 and 2023.

Table 2: Summary Results – System Use

Question	Response Rate	Results (Percent of respondents who selected option)	
On which day(s) do you usually ride the bus?	97%	Weekdays	30%
		Weekends	7%
		Both	63%
When do you usually ride the bus? *Respondent could select multiple options	95%	6AM – 3PM	82%
		After 3PM	43%
		Special Events	8%
How many days a week do you ride the bus?	95%	Less than 1	3%
		1 – 2	13%
		3 – 5	40%
		6 – 7	44%

Trip Characteristics

Questions 4-10 of the survey asked respondents about details regarding their DDOT trip.

Key Findings

Travel purpose and method: Most respondents use DDOT to travel to (59%) and from (79%) home or work. Most respondents walk to the bus stop (53%) and the greatest share of respondents walk once getting off the bus (47%).

- There were no notable differences in ingress/egress methods and origin/destination patterns between 2018 and 2023.

Payment Methods: Most respondents pay the standard fare rate (64%), and most pay in cash (65%). Besides cash, the greatest share of respondents uses the DDOT 31-day pass (18%), closely followed by the Regional 4-hour pass (13%) and the DDOT 7-day pass (12%). A slim majority of respondents use a credit or debit card (57%).

- It is challenging to compare payment method results from 2018 to 2023 due to differences in the payment systems. However, cash usage seems similar in 2018 (63%) and 2023 (65%).

- Slightly more respondents used a debit card in 2018 (58%) compared to 2023 (57%).

Table 3: Summary Results – Trip Characteristics

Question	Response Rate	Results (Percent of respondents who selected option)	
*How did you get to the stop where you boarded this bus?** *Respondent could select multiple options Other Includes: "Flex," Other (not specified)*	97%	Walked	53%
		Dropped off	28%
		Transferred from DDOT	14%
		Bicycled	5%
		Transferred from SMART	2%
		Park and Ride	2%
		Other	1%
		Drive	0%
*How will you get from this bus to your destination?** *Respondent could select multiple options Other Includes: "Uber," "D2A2 Bus," "QLine," Other (not specified)*	97%	Walk	47%
		Will be picked up	27%
		Transfer to DDOT	22%
		Bicycle	4%
		Transfer to SMART	3%
		Drive	1%
		Other	1%
Where are you coming from? (Choose One) *Other Includes: "Church," "Downtown," "Family," "Shelter," "Transit Center," Other (not specified)*	99%	Home	58%
		Work	21%
		Shopping / Errands	6%
		Doctor / Dentist	6%
		Other	5%
		Entertainment	2%
		School	2%

Table 3: Summary Results – Trip Characteristics

Question	Response Rate	Results (Percent of respondents who selected option)	
Where are you going? (Choose One) Other Includes*: "Church," "Court," "Food Pantry," "Friend/s," "Gym," "Hospital," "Library," Monastery," "Police Station," "Rehab," "St. John Mission," and Other (not specified)*	96%	Work	39%
		Home	20%
		Shopping / Errands	16%
		Doctor / Dentist	9%
		School	5%
		Other	6%
		Entertainment	4%
Did you pay a reduced fare today?	77%	No	64%
		Yes	36%
How did you pay for your fare today?	90%	Cash	65%
		Purchased a pass	27%
		Used the Dart App	8%
If you purchased a pass or used the Dart app, which did you use for today's trip?	90%	No pass, paid in cash	45%
		DDOT Student Card	4%
		DDOT, 7-day	12%
		DDOT, 31-day	18%
		Regional, 4-hour	13%
		Regional, 24-hour	2%
		Regional, 7-day	1%
		Regional, 31-day	5%

Customer characteristics and demographics

Questions 11-29 asked respondents about their daily routines and demographics.

Key Findings

City of Residence: Eighty-seven percent of respondents live in Detroit and 13% live within Southeast Michigan. Two respondents were from outside the State.

- 2018 results were similar, with 86% of respondents living in Detroit.

Technology: Most respondents use a smartphone (82%). Smartphones were also the most common method of accessing the internet (76%). Five percent of respondents do not access the internet.

- More respondents use a smartphone in 2023 (82%) than in 2018 (77%)

- More respondents access the internet through a smartphone in 2023 (76%) than in 2018 (34%). Less accessed the internet at home in 2023 (33%) than in 2018 (47%). In 2023 and 2018 those who do not have access to the internet remained the same 5%).

Income and education: Most respondents (64%) have an annual household income under $32,498. Most respondents have more than two people living in their household (54%). Most respondents have an education level of high school graduate or below (89%).

- Income levels (*not* adjusted for inflation) have increased slightly since 2018. In 2023, 64% of respondents make under $32,498 compared with 89% of respondents making under $34,999 in 2018. In 2023, 35% of respondents make between $32,498 - $75,000 compared with 10% of respondents making between $35,000 - $75,000 in 2018.

Demographics: The greatest share of respondents are 26-41 years old (29%). Most respondents are Black (81%). Thirty-five percent of respondents identify as female, the minority of respondents identify as non-binary/self-describe (11%).

- Breakdowns of race and age are similar between 2018 and 2023 results. More respondents identified as female in 2018 (48%).

Vulnerable groups: Most respondents do not have a driver's license (55%). Sixteen percent of respondents are disabled. Three percent of respondents do not speak English well or do not speak English at all. Six percent of respondents do not primarily speak English at home. Spanish and Arabic are the predominant languages besides English.

- Disability and Driver's License breakdowns are similar between 2018 and 2023. Less respondents did not primarily speak English at home in 2018 (3%). Spanish speakers increased from 2% in 2018 to 3% in 2023 and Arabic speakers increased from 0% in 2018 to 2% in 2023. Farsi speakers decreased from 1% in 2018 to 0% in 2023.

Table 4: Summary Results – Customer characteristics and demographics

Question	Response Rate	Results (Percent of respondents who selected option)	
Do you use a credit or debit card?	69%	Yes	57%
		No	43%
Do you use a smartphone?	81%	Yes	82%
		No	18%
*How do you access the internet?** *Respondent could select multiple options	95%	Smartphone	76%
		At home	33%
		Library	20%
		Non-smart cell phone	7%
		Do not have internet	5%
		Internet café	3%
Describe your living status: Other includes*: "Mission," "Homeless," "Dorm," Other (not specified)*	87%	Renter	58%
		Other	31%
		Homeowner	11%

Table 4: Summary Results – Customer characteristics and demographics

Question	Response Rate	Results (Percent of respondents who selected option)	
What is your employment status?	89%	Full-time	45%
		Part-time	20%
		Unemployed	15%
		Retired	10%
		Student	8%
		Homemaker	2%
What is your annual income?	79%	Under $32,468	64%
		$32,498 – $50,000	25%
		$50,000 – $75,000	10%
		Over $75,000	1%
How many people currently live in your household?	89%	1 – 2	46%
		3 – 4	39%
		5 – 6	12%
		7 or more	3%
What is your educational status?	88%	High School / GED	75%
		Some High School	14%
		Trade	4%
		Bachelor's degree	4%
		Master's Degree	2%
		Ph.D.	0%
What gender do you identify as?	95%	Male	54%
		Female	35%
		Non-Binary / Self-Describe	11%
How old are you?	94%	12 – 17	6%
		18 – 25	22%
		26 – 41	29%
		42 – 57	25%
		59 and older	19%

Table 4: Summary Results – Customer characteristics and demographics

Question	Response Rate	Results (Percent of respondents who selected option)	
What is your race? Check all that apply.** ****Respondent could select multiple options** **Native American and Alaska Native was written as NA/AN on the survey and was believed to have been confused with the abbreviation N.A., resulting in an inaccurate result*	91%	Black	81%
		White	10%
		Native American and Alaska Native*	10%
		Hispanic	2%
		Asian	2%
		Other (not specified)	1%
		Native Hawaiian / Pacific Islander	0.3%
What city do you live in? "Other: Southeast Michigan" Includes*: Ann Arbor, Grosse Pointe, Hamtramck, Livonia, Macomb, Mount Clemens, Oak Park, Redford, Southfield, Taylor, Wayne, Canton, Center Line, Ecorse, Ferndale, Fraser, Grosse Pointe Woods, Hazel Park, Inkster, Lincoln Park, Macomb County, Melvindale, Pleasant Ridge, Redford Township, Riverview, Royal Oak, St. Clair Shores, Sterling Heights, West Bloomfield, Ypsilanti, Dearborn Heights, Roseville* "Other: Out of State" Includes*: California, Chicago*	81%	Detroit	87%
		Other: Southeast Michigan	6%
		Warren	2%
		Dearborn	2%
		Highland Park	1%
		Eastpointe	1%
		Harper Woods	1%
		Other: Out of State	0.2%
Do you have a driver's license?	86%	No	55%
		Yes	45%
Are you disabled?	93%	No	84%
		Yes	16%
What is the primary language spoken in your home? *Other Includes: Bengali, Dari, French, German, Japanese, Other (not specified)*	94%	English	94%
		Spanish	3%
		Arabic	2%
		Other	1%
Do you speak English?	92%	Very well	98%
		Less than very well	2%
		Not at all	1%

Table 4: Summary Results – Customer characteristics and demographics

Question	Response Rate	Results (Percent of respondents who selected option)	
Are you married?	92%	No	91%
		Yes	9%
Are you a Veteran?	93%	No	94%
		Yes	6%

4. Cross-Tabulation Analysis

Several cross-tabulation analyses were completed to understand the survey results better. This analysis focused on the characteristics of high-frequency riders versus low-frequency riders, what affects the use of different payment types and methods, and how respondent age affects survey responses. These variables were chosen to help understand what is affecting rider frequency, what payment methods should be accommodated in the future, and how bus service can accomodate future generations. Notable results from these analyses are included below. Additional results can be seen in the tables in Appendix A.2 Cross Tabulations.

Bus Riding Frequency

The question "*How many days a week do you ride the bus?*" was cross tabulated with a variety of variables including income level, payment type, and payment method. This was done to better understand differences between frequent riders and non-frequent riders.

Household Income Level: In general, respondents who have an income level under $32,498 ride the bus more frequently than than respondents who have an income level above $50,000 (Table 5).

Table 5: Income level by how many days a week respondent rides the bus

Income Level (Number of Respondents)	How many days a week do you ride the bus?				
	Less than 1	1 to 2	3 to 5	6 to 7	Grand Total
Under $32,498 (499)	2%	11%	42%	45%	100%
$32,498 to $50,000 (197)	4%	15%	42%	39%	100%
$50,000 to $70,000 (70)	10%	11%	47%	31%	100%
Over $75,000 (8)	13%	0%	38%	50%	100%
Response Rate: 76%					

Payment Type and Method: Respondents who ride the bus 6 to 7 days a week are less likely to pay a reduced fare than respondents who ride the bus 2 days a week or less (Table 6).

Respondents who ride the bus three days or more per week are more likely to purchase a pass or use the Dart App compared to those who ride the bus less frequently. Respondents who ride the bus two days or less per week, are relatively more likely to pay in cash than those riding the bus more frequently (Table 7). A breakdown of frequency by different pass types can be found in A.2 Table 11.

Table 6: Normal or reduced fare by how many days respondent rides the bus

Reduced Fare?	How many days a week do you ride the bus?			
	Less than 1	1 to 2	3 to 5	6 to 7
No	32%	52%	62%	72%
Yes	68%	48%	38%	28%
Grand Total	100%	100%	100%	100%
Response Rate: 78%				

Table 7: Payment method by how many days a week respondent rides the bus

Payment Method	How many days a week to you ride the bus?			
	Less than 1	1 to 2	3 to 5	6 to 7
Cash	84%	74%	62%	66%
Purchased a pass	13%	21%	30%	26%
Used the Dart App	3%	5%	9%	8%
Grand Total	100%	100%	100%	100%
Response Rate: 87%				

Payment method

Cross tabulations by payment method were completed for the following questions: race/ethnicity, city of residence, household income level, use of debit/credit card (Table 8), and English proficiency.

Use of Debit/Credit Card: Out of all variables analyzed, the use of a debit/credit card had the greatest influence on the payment method the respondent used. Respondents who use a debit or credit card were less likely to use cash and more likely to purchase a pass or use the Dart App compared with respondents who do not use a debit or credit card (Table 8).

Table 8: Usage of debit/credit card by payment method

Payment Method	Do you use a debit/credit card?	
	No	Yes
Cash	76%	61%
Purchased a pass	20%	26%
Used the Dart App	4%	13%
Grand Total	100%	100%
Response Rate: 63%		

A breakdown of payment method by race/ethnicity, city of residence, household income level, and income proficiency can be found in Appendix A.2.

Respondent age

Cross tabulations by age were completed for the following questions: employment status (Table 9), debit/credit card usage, and smartphone usage (Table 10). Respondent age by debit/credit card usage can be found in Appendix A.2.

Employment Status: Respondents who are 58 and older are more likely to be unemployed or retired than younger respondents (Table 9). Most residents between 18 and 57 years old are working full-time (Table 9). Out of respondents who are 12 to 17 years old, 48% were students (Table 9).

Table 9: Age by employment status

Employment Status	Age				
	12 to 17	18 to 25	26 to 41	42 to 57	58 and older
Full-time	12%	52%	52%	56%	19%
Part-time	22%	20%	26%	17%	12%
Student	58%	14%	6%	0%	0%
Homemaker	0%	2%	1%	1%	3%
Unemployed	6%	9%	14%	19%	23%
Retired	2%	3%	1%	7%	42%

Grand Total	100%	100%	100%	100%	100%

Response Rate: 85%

Smartphone Usage: Most respondents use a smartphone across all age groups. On average, respondents 41 and younger are more likely to use a smartphone than respondents 42 and older (Table 10).

Table 10: Age by smartphone usage

| Age	Do you use a smartphone?		Grand Total
	No	Yes	
12 to 17	10%	90%	100%
18 to 25	8%	92%	100%
26 to 41	18%	82%	100%
42 to 57	22%	78%	100%
58 and older	31%	69%	100%

Response Rate: 77%

Appendix A Results

A.1   Summary Results Figures

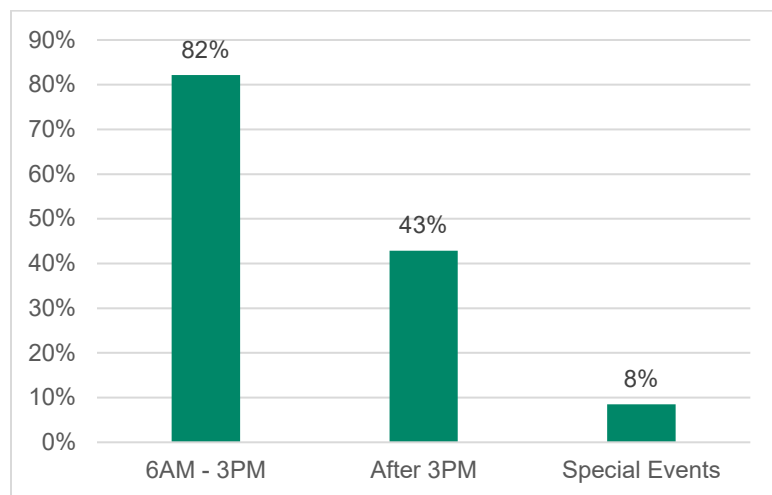The following figures visualize the results summarized in the Summary Results section. Each figure is a separate question from the survey. For each question, respondents were to select only one answer unless otherwise specified.

Figure 1: On which day(s) do you usually ride the bus?
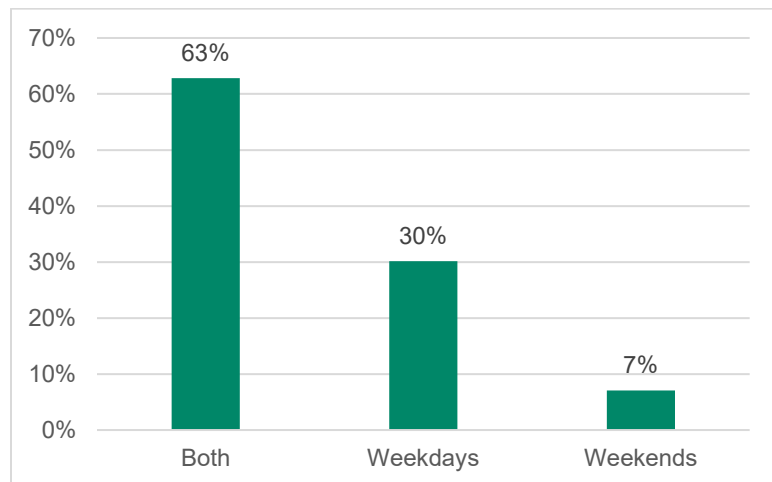
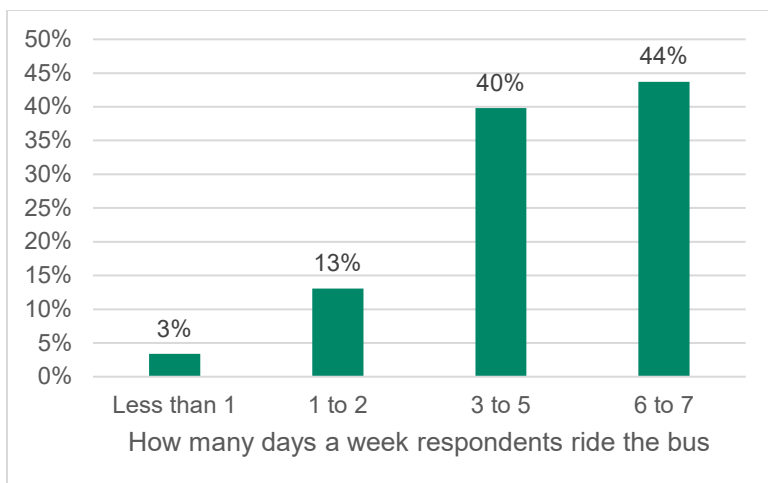*Response Rate: 97%*

Figure 2: When do you usually ride the bus?*

Response Rate: 95%
*Respondent could select multiple options

Figure 3: How many days a week do you ride the bus?

Response Rate: 95%

Figure 4: How did you get to the stop where you boarded this bus?*
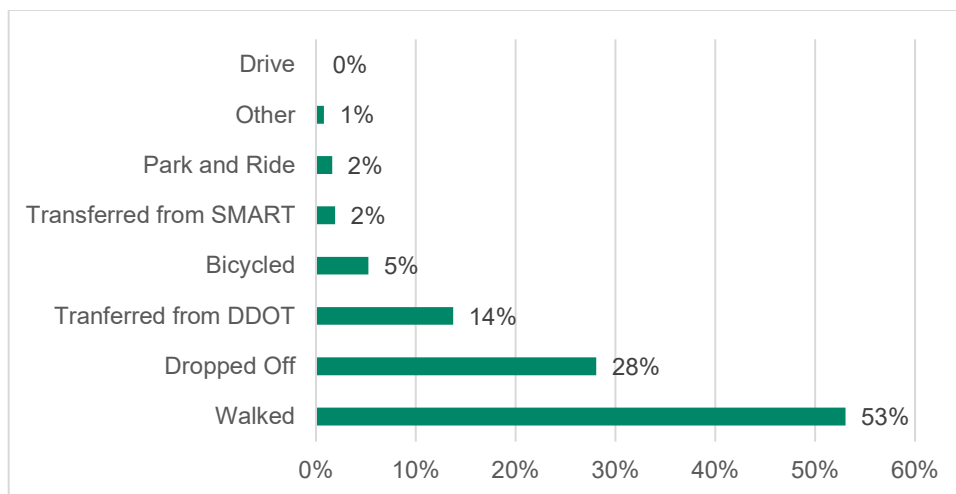
Response Rate: 97%
*Respondent could select multiple options
Other includes *Other (not specified), "Flex"*

Figure 5: How will you get from this bus to your destination?*
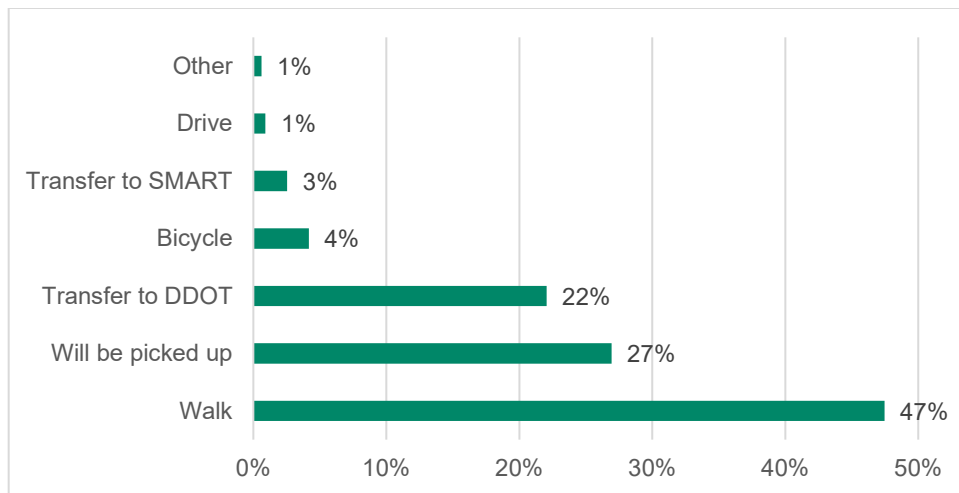
Response Rate: 97%
*Respondent could select multiple options
Other includes other (not specified), "Uber," "D2A2 Bus," "QLine"

Figure 6: Where are you coming from?
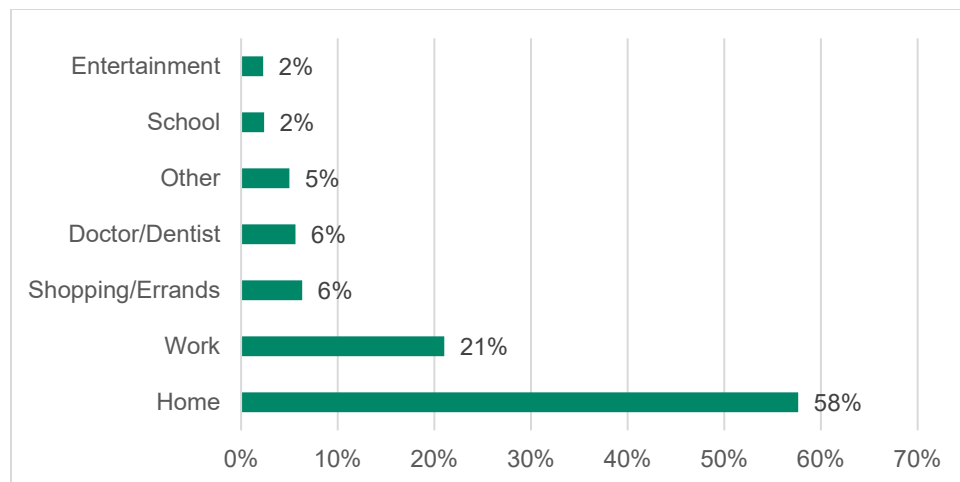
*Response Rate: 9*9%
Other includes other (not specified), "church," "downtown," "family," "shelter," "transit center"

Figure 7: Where are you going on this trip?
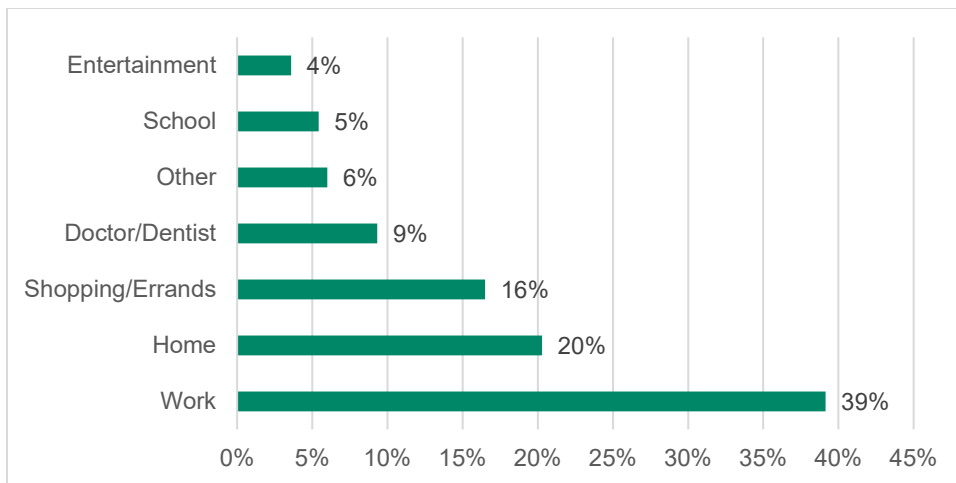
Response Rate: 96%
Other includes other (not specified), "church," "court," "food pantry," "friend(s)," "gym," "library," "monastery," "police station," "rehab," "St. John Mission"

Figure 8: Did you pay a reduced fare today?
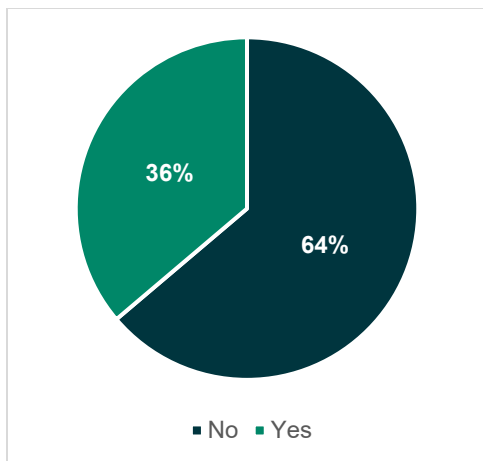
Response Rate: 77%

Figure 9: How did you pay for your fare today?
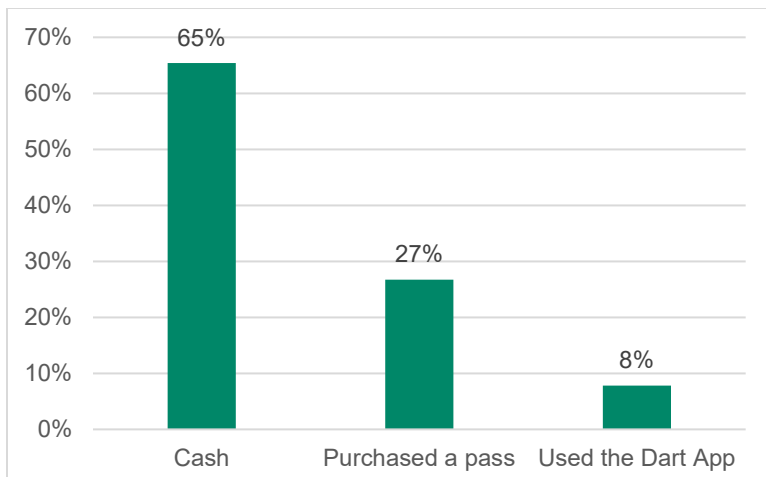
Response Rate: 90%

Figure 10: If you purchased a pass or used the Dart app, which did you use for today's trip?

Category	Percentage
Regional 7-day	1%
Regional 24-hour	2%
DDOT Student Card	4%
Regional 31-day	5%
DDOT, 7-day	12%
Regional 4-hour	13%
DDOT, 31-day	18%
No pass, paid in cash	45%
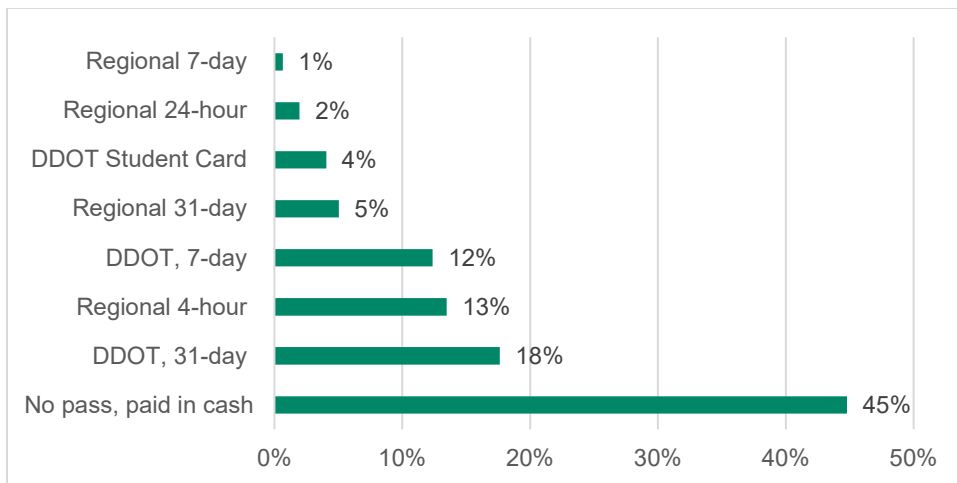
Response Rate: 90%

Figure 11: Do you use a smartphone?

No: 18%
Yes: 82%
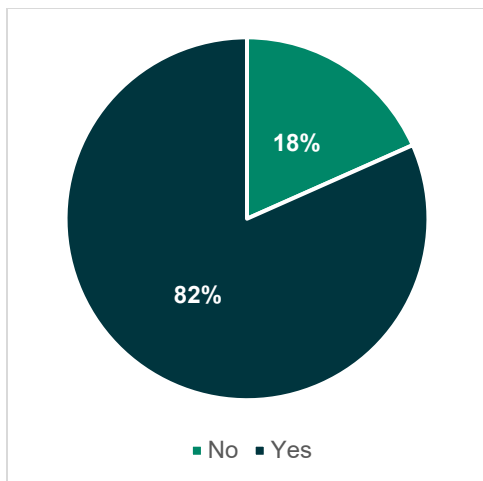
Response Rate: 81%

Figure 12: How do you access the internet?*

Category	Percentage
Internet Cafe	3%
Do not have Internet	5%
Non-Smart Cell Phone	7%
Library	20%
At home	33%
Smartphone	76%
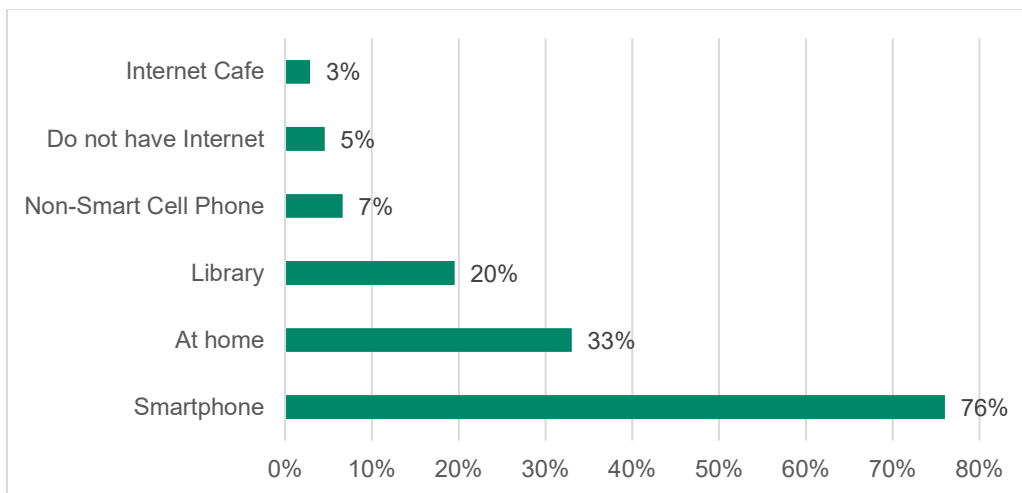
Response Rate: 95%
*Respondent could select multiple options.

Figure 13: Describe your living status
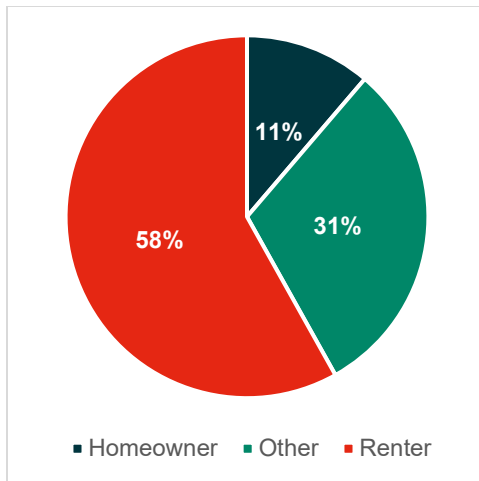
Response Rate: 87%

Other includes other (not specified), "mission," "homeless," "dorm"

Figure 14: Do you have a driver's license?
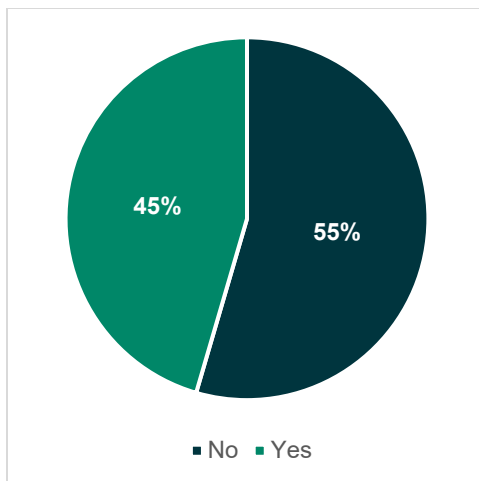
Response Rate: 86%

Figure 15: What gender do you identify as?
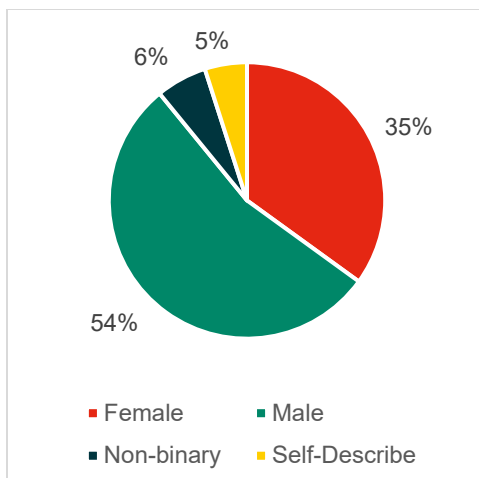
Response Rate: 95%

Figure 16: How old are you?
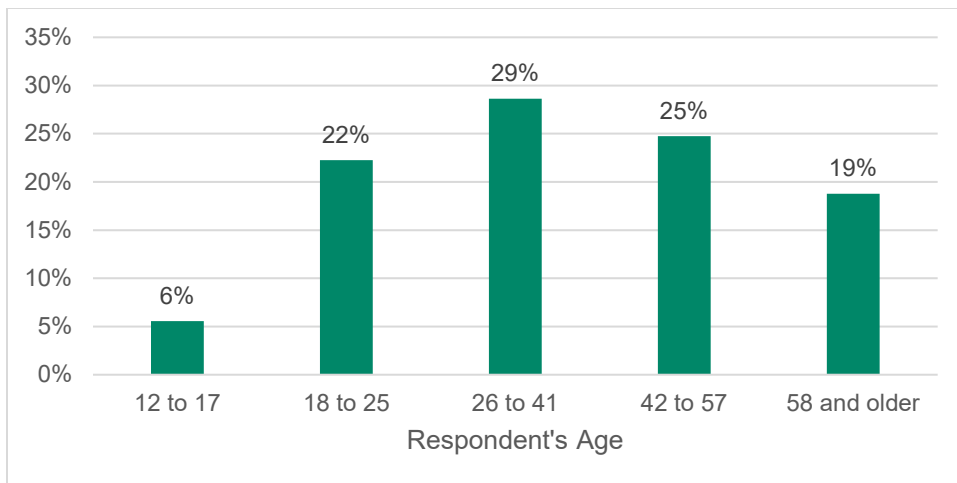
Response Rate: 94%

Figure 17: What is your race? Check all that apply.**
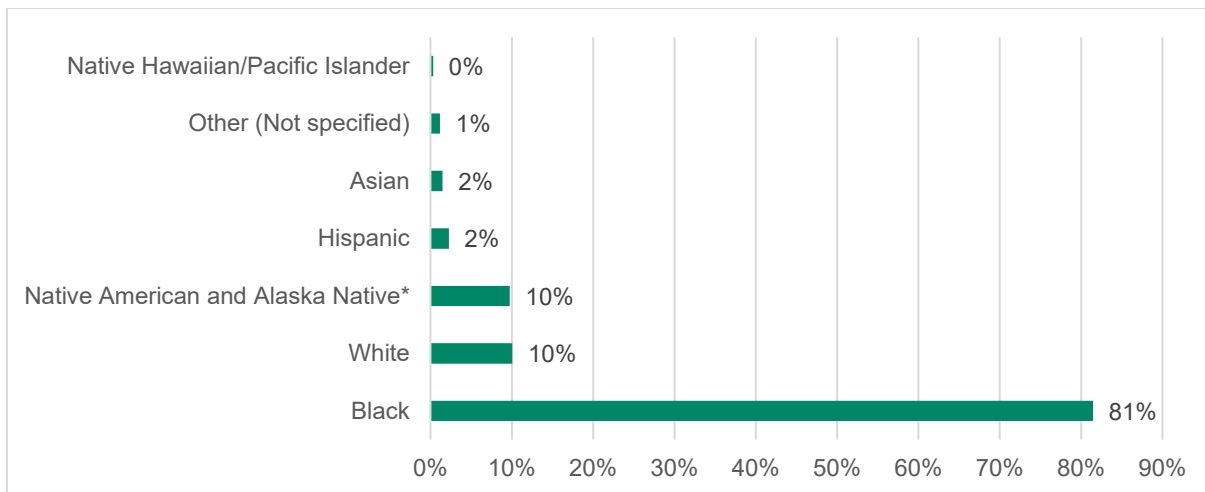
Response Rate: 91%

**Respondent could select multiple options

*Native American and Alaska Native was written as NA/AN on the survey and was believed to have been confused with the abbreviation N.A., resulting in an inaccurate result

Figure 18: What city do you live in?
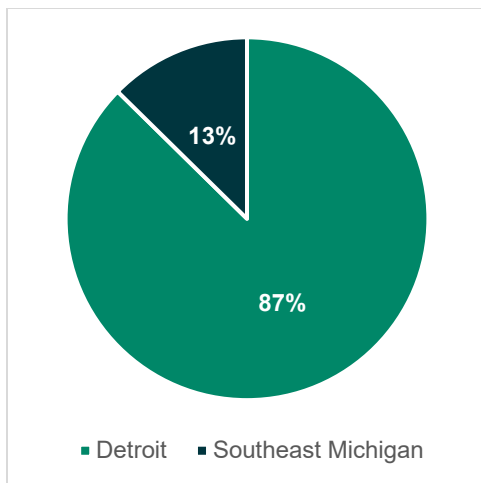
Response Rate: 81%

Southeast Michigan includes Warren, Dearborn, Highland Park, Eastpointe, Harper Woods, Ann Arbor, Grosse Pointe, Hamtramck, Livonia, Macomb, Mount Clemens, Oak Park, Redford, Southfield, Taylor, Wayne, Canton, Center Line, Ecorse, Ferndale, Fraser, Grosse Pointe Woods, Hazel Park, Inkster, Lincoln Park, Macomb County, Melvindale, Pleasant Ridge, Redford Township, Riverview, Royal Oak, St. Clair Shores, Sterling Heights, West Bloomfield, Ypsilanti, Dearborn Heights, Roseville
Out of State (0.2% of respondents, not shown on chart) includes California, Chicago

Figure 19: Number of Respondents by Zip code
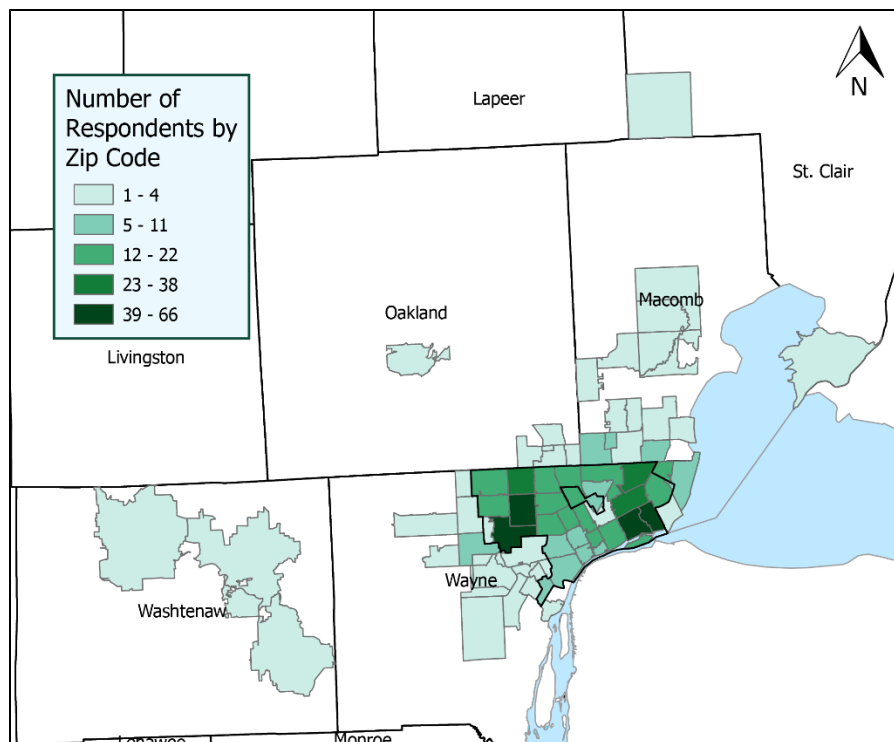
Response Rate: 71%

Figure 20: Are you married?
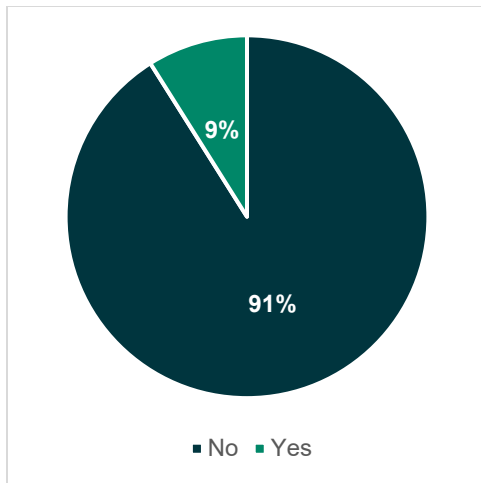
Response Rate: 92%

Figure 21: Are you disabled?
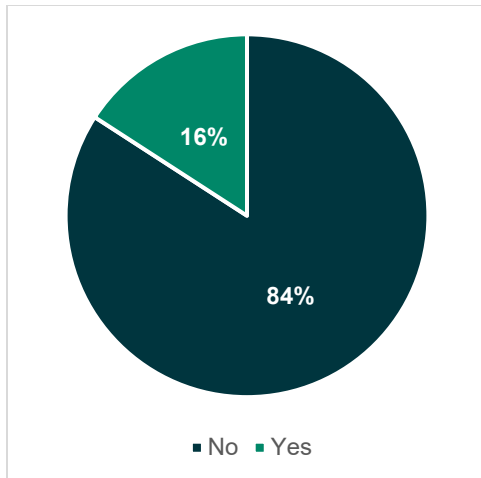
Response Rate: 93%

Figure 22: Are you a veteran?
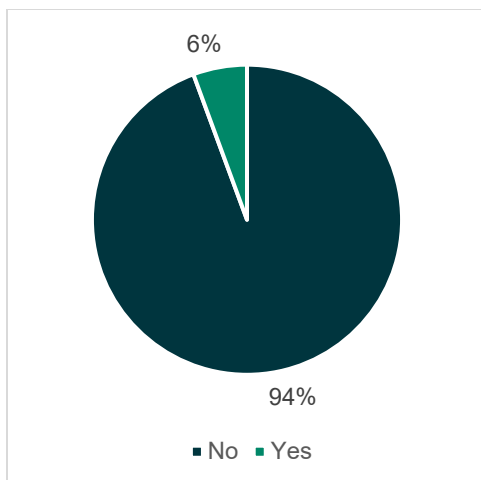
Response Rate: 93%

Figure 23: What is your employment status?
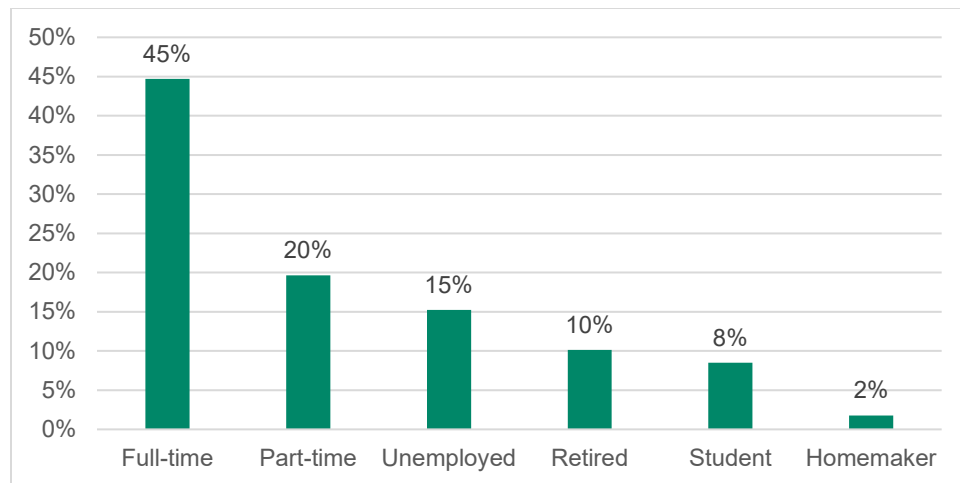
Response Rate 89%

Figure 24: What is your total household income?
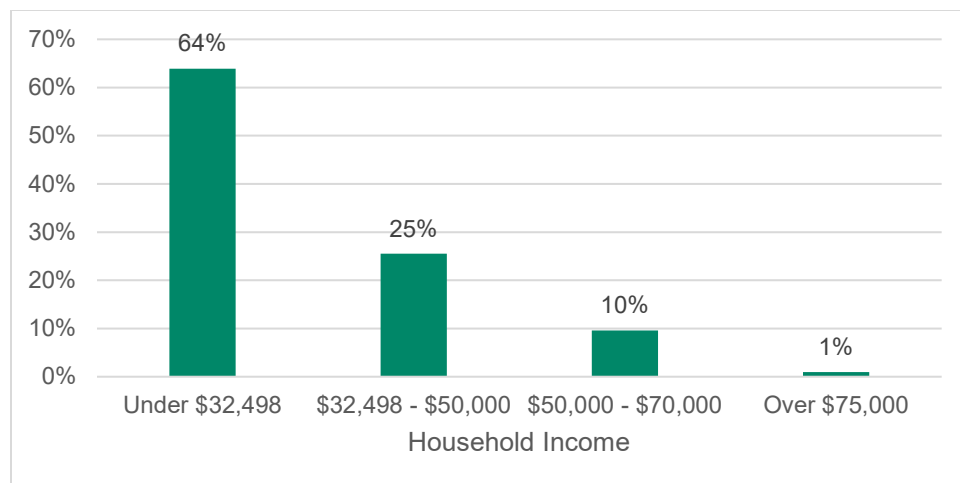
Response Rate: 79%

Figure 25: What is the primary language spoken in your home?
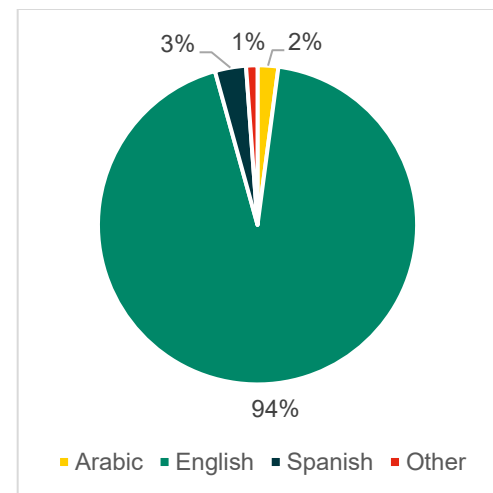
Response Rate: 94%
Other includes Bengali, Dari, French, German, Japanese, Other (not specified)

Figure 26: Do you speak English?

- Not at all
- Less than very well
- Very well
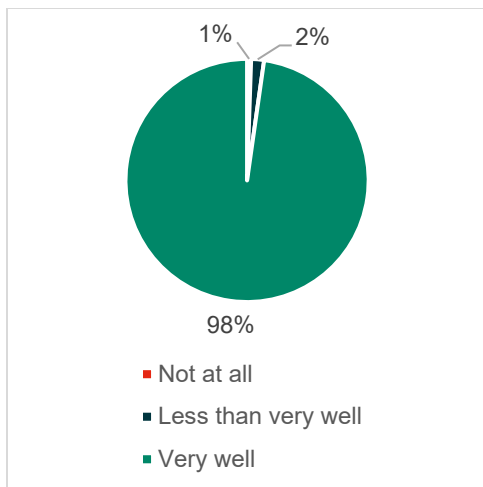
Response Rate: 92%

Figure 27: How many people currently live in your household?
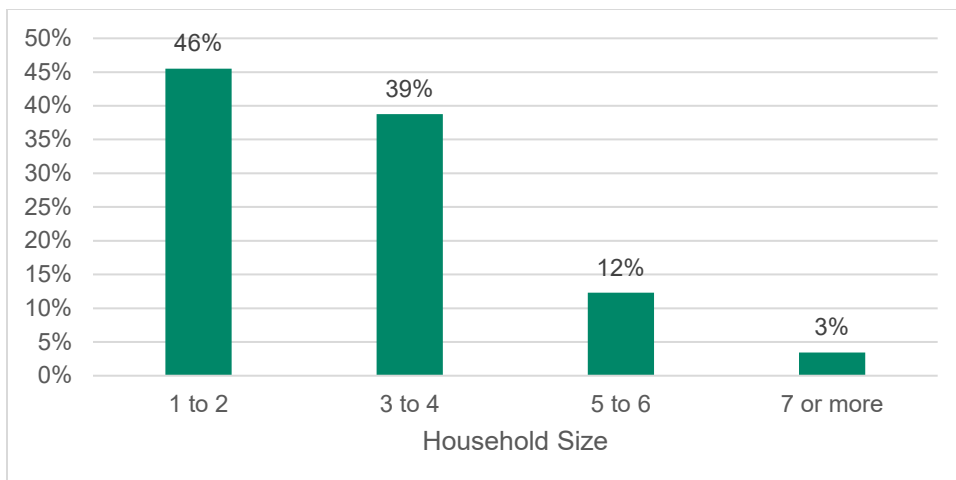
Response Rate: 93%

Figure 28: What is your education status?
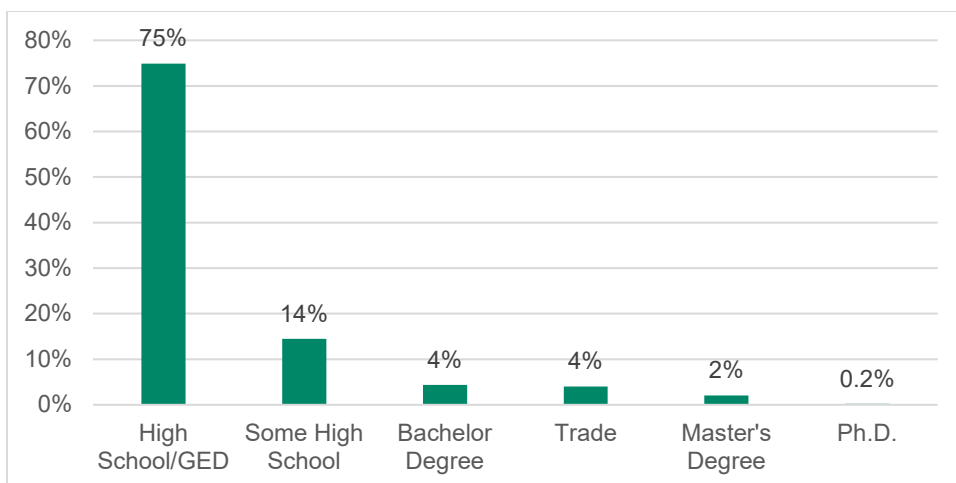
Response Rate: 88%

Figure 29: Do you use a debit or credit card?
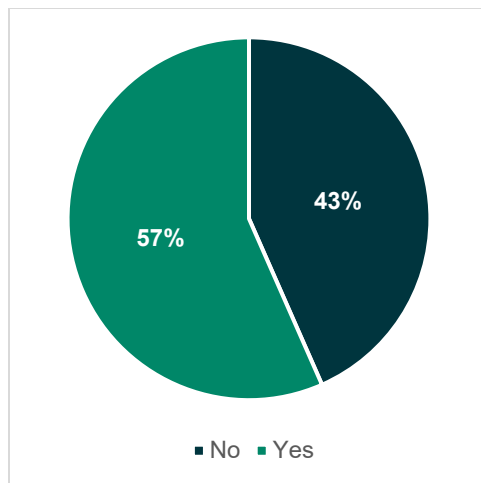
Response Rate: 69%

A.2   Cross Tabulations

Several cross tabulations were completed to gain better insight on how certain responses affect one another. There was a focus on the ways different variables affect payment methods since this information could help inform the future of payment methods available to DDOT users. Respondent age was also a focus in this analysis to help gain insight on how usage of the DDOT system may shift over time when younger users utilize the system more in the future.

Table 11: Pass type by how many days a week respondent rides the bus

Pass Type	How many days a week do you ride the bus?			
	Less than 1	1 to 2	3 to 5	6 to 7
No pass, paid in cash	66%	55%	39%	45%
DDOT Student Card	0%	1%	5%	5%
DDOT, 7-day	9%	12%	13%	12%
DDOT, 31-day	9%	11%	21%	17%
Regional 4-hour	0%	16%	16%	12%
Regional 24-hour	6%	0%	2%	2%
Regional 7-day	3%	1%	1%	1%
Regional 31-day	6%	3%	4%	6%
Grand Total	100%	100%	100%	100%
Response Rate: 87%				

Table 12: Race / ethnicity* by payment method

Race/Ethnicity* (Total Respondents)	Payment Method			Grand Total
	Cash	Purchased a pass	Used the Dart App	
Black (690)	69%	23%	9%	100%
Native American/Alaska Native** (90)	41%	53%	6%	100%
White (89)	61%	33%	7%	100%
Hispanic (19)	53%	42%	5%	100%
Asian (13)	62%	38%	0%	100%
Native Hawaiian/Pacific Islander (3)	0%	0%	100%	100%
Other (2)	50%	0%	50%	100%
Response Rate: 83%				
*Respondent could select multiple options				
**Native American and Alaska Native was written as NA/AN on the survey and was believed to have been confused with the abbreviation N.A., resulting in an inaccurate result				

Table 13: City of residence by payment method

City of Residence (Total Respondents)	Payment Method			Grand Total
	Cash	Purchased a pass	Used the Dart App	
Detroit (653)	66%	26%	8%	100%
Other: Southeast Michigan (42)	71%	17%	12%	100%
Warren (17)	65%	18%	18%	100%
Dearborn (12)	58%	25%	17%	100%
Highland Park (9)	67%	22%	11%	100%
Eastpointe (6)	67%	17%	17%	100%
Harper Woods (6)	50%	33%	17%	100%
Other: Out of State (2)	50%	50%	0%	100%
Response Rate: 73%				

Table 14: Household income level by payment method

Household Income Level (Respondents)	Payment Method			Grand Total
	Cash	Purchased a pass	Used the Dart App	
Under $32,498 (485)	69%	21%	10%	100%
$32,498 - $50,000 (190)	57%	35%	8%	100%
$50,000 - $70,000 (73)	55%	38%	7%	100%
Over $75,000 (7)	86%	14%	0%	100%
Response Rate: 74%				

Table 15: English proficiency by payment method

Payment Method	How well can you speak English? (Number of Respondents)		
	Not at all (5)	Less than very well (15)	Very well (829)
Cash	40%	53%	67%
Purchased a pass	60%	33%	25%
Used the Dart App	0%	13%	8%
Grand Total	100%	100%	100%
Response Rate: 83%			

Table 16: Age by debit/credit card usage

Age	Do you use a credit/debit card?		Grand Total
	No	Yes	
12 to 17	47%	53%	100%
18 to 25	39%	61%	100%
26 to 41	38%	62%	100%
42 to 57	55%	45%	100%
58 and older	35%	65%	100%
Response Rate: 67%			

Appendix B Data Collection Plan

Data Collection Plan

2023 DDOT TITLE VI SURVEY

DATA COLLECTION PLAN

Target Audience: DDOT Riders

Total Number of Completed Surveys: 1,066

This document outlines the data collection plan and procedures for the 2023 DDOT Title VI Survey. The goal of the project is to address the nine areas prescribed in the FTA Title VI circular (Race, Color, Language spoken at home, Household income, Travel patterns, Fare usage, National origin, and English proficiency) and to obtain an adequate number of survey responses to be able to complete a snapshot analysis of DDOT riders. A sampling plan was developed that reflected this goal and ensured a representative sample based on route and day of the week. The population ridership data was used to create the sampling plan, and a final goal of 1,066 completed surveys was set. This reflects proportional weighting based on ridership and the day of the week. The margin of error for the entire DDOT system is a confidence level of 95%, with a margin of error of ±3% for the entire system.

The sampling plan ensures that high-ridership limited-English proficiency (LEP) population routes are oversampled so an analysis with the same confidence level and margin of error can be performed on this subset of data.

Survey Team

The survey team will consist of the Project Manager (AECOM) and the Data Collection Team (Green Arrow). The role of the Project Manager will be to respond to any direct questions from staff in the field. The role of the Data Collection Team will be to administer all surveys to DDOT riders 13 and older. Staff will have a card with general contact information (phone and email) if a rider has additional comments to share.

DDOT operators will be notified of the presence of surveyors on the buses during the days designated for data collection. Members of the Data Collection Team will all wear a DDOT badge (that has bus pass access) and a vest to identify themselves. Data collection will occur in teams of two. A small incentive will be given to the rider after the rider turns in the survey.

Training Briefing

The DDOT, the Project Manager, and Power Marketing Research will conduct a brief training with the Data Collection Team members. The training will brief staff on the purpose of the project, review the data collection process, review safety protocols, onboard bus etiquette and protocols, and respond to any questions.

Data Collection Process

Members of the Data Collection Team will board buses at the start of a route, ride it through the end of the route, and then back to the start of the route. Each shift involves 2-3 bus route round trips. The goal will be to hand out surveys to all riders and gather completed survey instruments back from them.

The survey will be administered during weekdays (Monday-Friday) and on weekends (Saturday-Sunday) during January 2022. Surveys will be administered on all routes with goals for determining the number of completes per route. The goal will be to complete the data collection by February 2, 2022.

The process for administering the survey is as follows:

1. Staff member of the Data Collection team boards the bus and introduces themselves to the bus operator and their purpose.
2. The staff hands out survey instrument and pencils to everyone on board 13 and older who agrees to participate.
3. Staff politely asks riders to fill out the survey. Staff informs riders that upon completion of survey they will receive incentive.
4. Staff assists anyone having problems reading/filling out the survey.
5. Staff gathers all surveys from riders as they complete the survey, or as they exit the bus.
6. When the survey is collected the rider receives the incentive.
7. Staff member departs bus at end of route.
8. All surveys will be administered and collected on board the bus.

Appendix C Onboard Survey

Onboard Survey

Detroit Department of Transportation On-board Rider Survey Questions

1. On which day(s) do you usually ride the bus?
□ Weekdays   □ Weekends   □ Both

2. When do you usually ride the bus?
□ 6AM – 3PM   □ After 3PM   □ Special Events

3. How many days a week do you ride the bus?
□ 6 – 7   □ 3 – 5   □ 1 – 2   □ Less than 1

4. How did you get to the stop where you boarded this bus?
□ Walked   □ Bicycled   □ Dropped Off
□ Transferred from DDOT   □ Transferred from SMART
□ Park and Ride   □ Other: _____

5. How will you get from this bus to your destination?
□ Walk   □ Bicycle   □ Will be Picked Up
□ Transfer to DDOT   □ Transfer to SMART
□ Drive   □ Other : _____

6. Where are you coming from? (Choose One)
□ Home   □ Work   □ School
□ Doctor/Dentist   □ Shopping/Errands
□ Entertainment   □ Other: _____

7. Where are you going on this trip? (Choose One)
□ Home   □ Work   □ School
□ Doctor/Dentist   □ Shopping/Errands
□ Entertainment   □ Other: _____

8. Did you pay a reduced fare today? □ Yes   □ No

9. How did you pay for your fare today?
□ Cash   □ Purchased a pass   □ Used the Dart App

10. If you purchased a pass or used the Dart app, which did you use for today's trip?
□DDOT,   □DDOT,   □DDOT
7-day   31-day   Student Card
□Regional, □Regional, □Regional,   □Regional,
4 hour   24 hour   7 Day   31 Day

11. Do you use a smartphone? □ Yes   □ No

12. How do you access the Internet?
□ At Home   □ Library   □ Internet Café
□ Cell Phone   □ Smartphone   □ Do not have Internet

13. Describe your living status:
□ Homeowner □ Renter   □ Other

14. Do you have a driver's license? □ Yes   □ No

15. What gender do you identify as?
□ Male   □ Non-binary
□ Female   □ Self-Describe

16. How old are you?
□ 12-18   □ 18-25   □ 26-41
□ 42-57   □ 58 and older

17. What is your race? Check all that apply.
□ Black   □ White   □ Hispanic
□ Asian   □ NA/AN   □ NH/PI
□ Other: _____

18. What city do you live in? _____

19. What is your zip code? _____

20. Are you married? □ Yes   □ No

21. Are you disabled? □ Yes   □ No

22. Are you a Veteran? □ Yes   □ No

23. What is your employment status?
□ Full-time   □ Unemployed □ Homemaker
□ Part-time   □ Student   □ Retired

24. What is your total household income?
□ Under $32,498   □ $32,498 - $50,000
□ $50,000 – $70,000   □ Over $75,000

25. What is the primary language spoken in your home?
□ English   □Arabic   □ Spanish   □ Bengali
□ Other: _____

26. Do you speak English?
□ Very well   □ Less than very well   □ Not at all

27. How many people currently live in your household?
□ 1-2   □ 3-4   □ 5-6   □ 7 or more

28. What is your educational status?
□ Some High School   □ High School/GED   □ Trade
□ Bachelor Degree   □ Master's Degree   □ Ph.D.

29. Do you use a debit or credit card? □ Yes   □ No

30. Optional. Provide your contact information to be entered into a drawing for a free 30-day bus pass.

Phone # or Email: _____

Name: _____

For Office Use Only

Route#									Day on Bus:	Time on Bus:
□ 1	□ 2	□ 3	□ 4	□ 5	□ 6	□ 7	□ 19	□ 10	□ Weekday	□ 12:00 am – 6:00 am
□ 11	□12	□ 13	□ 15	□ 16	□ 17	□ 18	□ 19	□ 23	□ Saturday	□ 6:00 am – 12:00 pm
□ 27	□ 29	□ 30	□ 31	□ 32	□ 38	□ 39	□ 40	□ 41	□ Sunday	□ 12:00 pm – 6:00 pm
□ 42	□ 43	□ 47	□ 52	□ 54	□ 60	□ 67	□ 68			□ 6:00 pm – 12:00 pm

Appendix D Data Collection Schedule

ORIGINAL SCHEDULE

	20-Jan Friday		21-Jan Saturday		22-Jan Sunday		23-Jan Monday	
	Route	Target	Route	Target	Route	Target	Route	Target
Team 1	4	20	4	25	68	5	68	5
	4	20	52	15	13	5	13	5
	52	20	19	5			11	5
Team 2	27	10	27	5	15	5	15	5
	2	30	2	35	41	20	41	30
	2	25						
Team 3	31	15	31	10	29	5	29	5
	40	15	67	5	16	20	16	35
							19	5
Team 4	9	40	9	25	39	5	39	5
	9	40	9	20	43	5	43	10
	67	5			42	5	42	5

	26-Jan Thursday		27-Jan Friday		28-Jan Saturday		29-Jan Sunday		30-Jan Monday	
	Route	Target	Route	Target	Route	Target	Route	Target	Route	Target
Team 1			38	10	38	10	18	10	18	10
			12	15	12	10	1	25	1	25
									1	20
Team 2			8	25	8	15	3	25	3	20
			23	5	23	5	6	20	3	20
									6	35
Team 3			7	20	32	10	54	15	54	30
			7	20	7	25	30	5	30	5
Team 4	32	15	17	36	17	25	10	20	10	35
	46	5	5	20	5	10	60	10	60	15
					9	75			47	5

(Break — between Team 1 and Team 2 for 26-Jan)

MAKE UP DAYS

	1-Feb Wednesday		2-Feb Thursday		3-Feb Friday		4-Feb Saturday		5-Feb Sunday	
	Route	Target	Route	Target	Route	Target	Route	Target	Route	Target
Team 1	4	15	Off		41	40	54	45	3	60
	2	60								
Team 4	5	20	10	40						
	9	35	60	15						

	9-Feb Thursday		10-Feb Friday		11-Feb Saturday	
	Route	Target	Route	Target	Route	Target
	9	25	3	60	10	60
	16	45				
	7	55	6	50	17	40
			16	50		

(Break)